

MINOR SOURCE OPERATING PERMIT OFFICE OF AIR QUALITY

**Purina Mills, Inc.
505 North 4th Street
Richmond, Indiana 47374**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: 177-13636-00033	Issuance Date:
Issued by: Original Signed Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Expiration Date: May 10 , 2002

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SECTION A

SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates an animal feed manufacturing operation.

Authorized individual: Paul Luther
Source Address: 505 North 4th Street, Richmond, Indiana 47374
Mailing Address: P.O. Box 66812, St. Louis, MO 63166
SIC Code: 2048
Source County: Wayne
County Status: Maintenance for SO₂, attainment for all criteria pollutants
Source Status: Federally Enforceable State Operating Permit (FESOP)
Minor Source, under PSD Rules;
Minor Source, Section 112 of the Clean Air Act

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

- (a) one (1) raw material receiving process, with a maximum design throughput of 20 tons per hour, including:
 - (i) one (1) receiving area with a maximum design throughput of 75 tons/hr, with emissions controlled by baghouse C15, and exhausted through Stack C15,
 - (ii) one (1) receiving area raw material grinder, with a maximum throughput of 20 tons/hour, with emissions controlled by baghouse C3, and emissions exhausted through Stack C3,
 - (iii) one (1) raw material storage area, with a maximum design throughput of 20 tons/hr,
 - (iv) one (1) raw material mixing process, with a maximum design throughput of 20 tons/hr, with emissions exhausted inside the building to the surge hopper, and
 - (v) six (6) enclosed raw material conveyors, one (1) conveying material from the receiving area to the grinder and storage conveyors with a maximum design throughput of 75 tons/hr, with emissions controlled by baghouse C15, and emissions exhausted through Stack C15, one (1) conveying material from the receiving conveyor to the receiving process grinder with a maximum design throughput of 20 tons/hr, one (1) conveying material from the receiving conveyor to the receiving process storage area with a maximum design throughput of 55 tons/hr, one (1) conveying material from the grinder to the receiving process storage area with a maximum design throughput of 20 tons/hr, one (1) conveying material from the storage area to the mixing process with a maximum design throughput of 20 tons/hr, and one (1) conveying material from the mixing area to the pellet or extrusion processes with a maximum design throughput of 20 tons/hr.
- (b) one (1) pelleting process consisting of two (2) pelleting systems, identified as Pellet System 1 and Pellet System 2, each with a maximum design throughput of 10 tons/hr, with:

- (i) Pellet System 1 including:
 - (A) one (1) pellet dryer, with a maximum design throughput of 10 tons/hr, equipped with a 1.0 MMBtu/hr natural gas fired heating unit, with the dryer emissions controlled by triple cyclone system C10, and emissions exhausted through Stack C10,
 - (B) one (1) pellet cooler, with a maximum design throughput of 10 tons/hr, with emissions controlled by dual cyclone system C14-1, and emissions exhausted through Stack C14-1, and
 - (C) two (2) enclosed material conveyors, one (1) conveying material from the dryer to the cooler with a maximum design throughput of 10 tons/hr, and one (1) conveying material from the cooler to the pelleting process storage area with a maximum design throughput of 10 tons/hr.
- (ii) Pellet System 2, including:
 - (A) one (1) pellet cooler, with a maximum design throughput of 10 tons/hr, with emissions controlled by triple cyclone system C14-2, and emissions exhausted through Stack C14-2, and
 - (B) one (1) enclosed material conveyor, conveying material from the cooler to the pelleting process storage area with a maximum design throughput of 10 tons/hr.
- (iii) one (1) pelleting process storage area, including:
 - (A) one (1) pelleting storage area, with a maximum design throughput of 20 tons/hr, and
 - (B) one (1) enclosed material conveyor, with a maximum design throughput of 20 tons/hr, conveying material to the packing process.
- (iv) one (1) pelleting process grinder, including:
 - (A) one (1) pelleting process grinder, with a maximum design throughput of 10 tons/hr, with emissions controlled by baghouse C18, and emissions exhausted through Stack C18, and
 - (B) two (2) enclosed conveyors, one conveying material from the storage feed conveyor to the grinder with a maximum design throughput of 10 tons/hr, and one (1) conveying material from the grinder conveyor to the storage area or packing process conveyor with a maximum design throughput of 10 tons/hr.
- (c) one (1) extrusion process including two (2) parallel extrusion systems, identified as Extrusion System 1 and Extrusion System 2, each with a maximum design throughput of 5 tons/hr, with:
 - (i) Extrusion System 1 including:
 - (A) one (1) extrusion grinder, with a maximum design throughput of 5 tons/hr, with emissions controlled by baghouse C23, and emissions exhausted through Stack C23,
 - (B) one (1) extruder, with a maximum design throughput of 5 tons/hr,
 - (C) one (1) dryer/cooler process, with a maximum design throughput of 5 tons/hr, with the dryer equipped with a 2.0 MMBtu/hr natural gas fired heater, with emissions from the dryer and cooler each controlled by a cyclone, with the two (2) cyclones identified as C12, and emissions exhausted through Stack C12,
 - (D) one (1) extrusion system storage area, with a maximum design throughput of 5 tons/hr, and

- (E) four (4) enclosed conveyors, one (1) conveying material from the grinder to the extruder with a maximum design throughput of 5 tons/hr, one (1) conveying material from the extruder to the dryer/cooler with a maximum design throughput of 5 tons/hr, with emission controlled by cyclone C11, and emissions exhausted through Stack C11, one (1) conveying material from the dryer/cooler to the extrusion system storage area with a maximum design throughput of 5 tons/hr, and one (1) conveying material from the extrusion system storage area to the packing process with a maximum design throughput of 5 tons/hr.
- (ii) Extrusion System 2 including:
- (A) one (1) extrusion grinder, with a maximum design throughput of 5 tons/hr, with emissions controlled by baghouse C23, and emissions exhausted through Stack C23,
 - (B) one (1) extruder, with a maximum design throughput of 5 tons/hr,
 - (C) one (1) dryer/cooler process, with a maximum design throughput of 5 tons/hr, with the dryer heat supplied by Boiler 2, with emissions from the dryer and cooler each controlled by a cyclone, with the two (2) cyclones identified as C12, and emissions exhausted through Stack C12,
 - (D) one (1) extrusion system storage area, with a maximum design throughput of 5 tons/hr, and
 - (E) four (4) enclosed conveyors, one (1) conveying material from the grinder to the extruder with a maximum design throughput of 5 tons/hr, one (1) conveying material from the extruder to the dryer/cooler with a maximum design throughput of 5 tons/hr, with emission controlled by cyclone C11, and emissions exhausted through Stack C11, one (1) conveying material from the dryer/cooler to the extrusion system storage area with a maximum design throughput of 5 tons/hr, and one (1) conveying material from the extrusion system storage area to the packing process with a maximum design throughput of 5 tons/hr.
- (d) one (1) material packing process, with a maximum design throughput of 30 tons/hr, including:
- (i) one (1) meal grinding process, with a maximum design throughput of 7 tons/hr, with emissions controlled by baghouse C20, and emissions exhausted through Stack C20,
 - (ii) one (1) packing process, with a maximum design throughput of 30 tons/hr, with emissions controlled by baghouse C16, and emissions exhausted through Stack C16, and
 - (iii) four (4) enclosed conveyors, one (1) conveying material from the extrusion or pelleting processes to the meal grinding operation with a maximum design throughput of 7 tons/hr, one (1) conveying material from the extrusion or pelleting processes to the packing process conveyor with a maximum design throughput of 23 tons/hr, one (1) conveying material from the meal grinding area to the packing system conveyor with a maximum design throughput of 7 tons/hr, and one conveying material from the extrusion or pelleting processes and meal grinding area conveyors to the packing process with a maximum design throughput of 30 tons/hr.
- (e) one (1) bulk loadout station, with a maximum design throughput of 15 tons/hr, with emissions controlled by baghouse C21, and emissions exhausted through Stack C21.

- (f) one (1) ACM corn flour grinding process, including one (1) grinder with a maximum design throughput of 2 tons/hr, and five (5) enclosed conveyors, each with a maximum design throughput of 2 tons/hr, conveying material to the extrusion process, with the grinder and conveyor emissions exhausted to baghouse C22, and emissions exhausted through Stack C22.
- (g) two (2) 13.4 MMBtu/hr natural gas fired boilers, identified as Boiler 1 and Boiler 2.
- (h) one (1) 23,800 gallon No. 2 fuel oil storage tank, identified as Tank 1.
- (i) three (3) 2.11 MMBtu/hr natural gas fired air make-up units providing heat to the source.
- (j) one (1) cold cleaner with a maximum solvent vapor pressure of 1.0 mm Hg (0.02 psia) at 100° F.

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled "Minor Source Operating Permit", all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

- (a) The attached Affidavit of Construction shall be submitted to the Office of Air Quality (OAQ), Permit Administration & Development Section.
 - (1) If the Affidavit of Construction verifies that the facilities covered in this Construction Permit were constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.
- (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.

- (c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.
- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).
- (e) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAQ, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 Preventive Maintenance Plan [326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.
- (b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventive Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.
- (c) PMP's shall be submitted to IDEM, OAQ, upon request and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ, may require the Permittee to revise its Preventive Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.2 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

- (a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

- (c) The Permittee shall notify the OAQ within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.3 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

- (a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;
- (c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;
- (d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.4 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]
Pursuant to [326 IAC 2-6.1-6(d)(3)] :

- (a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAQ, Permits Branch, within thirty (30) days of the change.
- (b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).
- (c) IDEM, OAQ, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.5 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.6 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.7 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

Testing Requirements

C.8 Performance Testing [326 IAC 3-6]

- (a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

- (b) All test reports must be received by IDEM, OAQ within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.9 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.10 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.11 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

(a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and comprised of:

- (1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.
- (2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:

- (1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or
- (2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.
- (3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.

- (4) Failure to take reasonable response steps shall constitute a violation of the permit.
- (c) The Permittee is not required to take any further response steps for any of the following reasons:
 - (1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.
 - (2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied.
 - (3) An automatic measurement was taken when the process was not operating.
 - (4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.
- (d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.
- (e) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-7-16 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.
- (f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

Record Keeping and Reporting Requirements

C.12 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) or appointed representative upon request.
- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAQ, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.13 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.
- (b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.
- (c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.
- (d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.
- (e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.
- (f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.14 General Record Keeping Requirements [326 IAC 2-6.1-2]

- (a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAQ representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.
- (b) Records of required monitoring information shall include, where applicable:
 - (1) The date, place, and time of sampling or measurements;
 - (2) The dates analyses were performed;

- (3) The company or entity performing the analyses;
 - (4) The analytic techniques or methods used;
 - (5) The results of such analyses; and
 - (6) The operating conditions existing at the time of sampling or measurement.
- (c) Support information shall include, where applicable:
- (1) Copies of all reports required by this permit;
 - (2) All original strip chart recordings for continuous monitoring instrumentation;
 - (3) All calibration and maintenance records;
 - (4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventive Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.
- (d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.15 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

- (a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a semi-annual Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015
- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

- (d) Unless otherwise specified in this permit, any quarterly or semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report(s) does/(do) not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).
- (e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:
 - (1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or
 - (2) A malfunction as described in 326 IAC 1-6-2; or
 - (3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.
 - (4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

- (f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.
- (g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.16 Annual Notification [326 IAC 2-6.1-5(a)(5)]

- (a) Annual notification shall be submitted to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.
- (b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.
- (c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Branch, Office of Air Quality
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

- (d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

SECTION D.1 FACILITY OPERATION CONDITIONS

- (a) one (1) raw material receiving process, with a maximum design throughput of 20 tons per hour, including:
 - (i) one (1) receiving area with a maximum design throughput of 75 tons/hr, with emissions controlled by baghouse C15, and exhausted through Stack C15,
 - (ii) one (1) receiving area raw material grinder, with a maximum throughput of 20 tons/hour, with emissions controlled by baghouse C3, and emissions exhausted through Stack C3,
 - (iii) one (1) raw material storage area, with a maximum design throughput of 20 tons/hr,
 - (iv) one (1) raw material mixing process, with a maximum design throughput of 20 tons/hr, with emissions exhausted inside the building to the surge hopper, and
 - (v) six (6) enclosed raw material conveyors, one (1) conveying material from the receiving area to the grinder and storage conveyors with a maximum design throughput of 75 tons/hr, with emissions controlled by baghouse C15, and emissions exhausted through Stack C15, one (1) conveying material from the receiving conveyor to the receiving process grinder with a maximum design throughput of 20 tons/hr, one (1) conveying material from the receiving conveyor to the receiving process storage area with a maximum design throughput of 55 tons/hr, one (1) conveying material from the grinder to the receiving process storage area with a maximum design throughput of 20 tons/hr, one (1) conveying material from the storage area to the mixing process with a maximum design throughput of 20 tons/hr, and one (1) conveying material from the mixing area to the pellet or extrusion processes with a maximum design throughput of 20 tons/hr.
- (b) one (1) pelleting process consisting of two (2) pelleting systems, identified as Pellet System 1 and Pellet System 2, each with a maximum design throughput of 10 tons/hr, with:
 - (i) Pellet System 1 including:
 - (A) one (1) pellet dryer, with a maximum design throughput of 10 tons/hr, equipped with a 1.0 MMBtu/hr natural gas fired heating unit, with the dryer emissions controlled by triple cyclone system C10, and emissions exhausted through Stack C10,
 - (B) one (1) pellet cooler, with a maximum design throughput of 10 tons/hr, with emissions controlled by dual cyclone system C14-1, and emissions exhausted through Stack C14-1, and
 - (C) two (2) enclosed material conveyors, one (1) conveying material from the dryer to the cooler with a maximum design throughput of 10 tons/hr, and one (1) conveying material from the cooler to the pelleting process storage area with a maximum design throughput of 10 tons/hr.
 - (ii) Pellet System 2, including:
 - (A) one (1) pellet cooler, with a maximum design throughput of 10 tons/hr, with emissions controlled by triple cyclone system C14-2, and emissions exhausted through Stack C14-2, and
 - (B) one (1) enclosed material conveyor, conveying material from the cooler to the pelleting process storage area with a maximum design throughput of 10 tons/hr.
 - (iii) one (1) pelleting process storage area, including:
 - (A) one (1) pelleting storage area, with a maximum design throughput of 20 tons/hr, and
 - (B) one (1) enclosed material conveyor, with a maximum design throughput of 20 tons/hr, conveying material to the packing process.

(iv) one (1) pelleting process grinder, including:

- (A) one (1) pelleting process grinder, with a maximum design throughput of 10 tons/hr, with emissions controlled by baghouse C18, and emissions exhausted through Stack C18, and
- (B) two (2) enclosed conveyors, one conveying material from the storage feed conveyor to the grinder with a maximum design throughput of 10 tons/hr, and one (1) conveying material from the grinder conveyor to the storage area or packing process conveyor with a maximum design throughput of 10 tons/hr.

(c) one (1) extrusion process including two (2) parallel extrusion systems, identified as Extrusion System 1 and Extrusion System 2, each with a maximum design throughput of 5 tons/hr, with:

(i) Extrusion System 1 including:

- (A) one (1) extrusion grinder, with a maximum design throughput of 5 tons/hr, with emissions controlled by baghouse C23, and emissions exhausted through Stack C23,
- (B) one (1) extruder, with a maximum design throughput of 5 tons/hr,
- (C) one (1) dryer/cooler process, with a maximum design throughput of 5 tons/hr, with the dryer equipped with a 2.0 MMBtu/hr natural gas fired heater, with emissions from the dryer and cooler each controlled by a cyclone, with the two (2) cyclones identified as C12, and emissions exhausted through Stack C12,
- (D) one (1) extrusion system storage area, with a maximum design throughput of 5 tons/hr, and
- (E) four (4) enclosed conveyors, one (1) conveying material from the grinder to the extruder with a maximum design throughput of 5 tons/hr, one (1) conveying material from the extruder to the dryer/cooler with a maximum design throughput of 5 tons/hr, with emission controlled by cyclone C11, and emissions exhausted through Stack C11, one (1) conveying material from the dryer/cooler to the extrusion system storage area with a maximum design throughput of 5 tons/hr, and one (1) conveying material from the extrusion system storage area to the packing process with a maximum design throughput of 5 tons/hr.

(ii) Extrusion System 2 including:

- (A) one (1) extrusion grinder, with a maximum design throughput of 5 tons/hr, with emissions controlled by baghouse C23, and emissions exhausted through Stack C23,
- (B) one (1) extruder, with a maximum design throughput of 5 tons/hr,
- (C) one (1) dryer/cooler process, with a maximum design throughput of 5 tons/hr, with the dryer heat supplied by Boiler 2, with emissions from the dryer and cooler each controlled by a cyclone, with the two (2) cyclones identified as C12, and emissions exhausted through Stack C12,
- (D) one (1) extrusion system storage area, with a maximum design throughput of 5 tons/hr, and
- (E) four (4) enclosed conveyors, one (1) conveying material from the grinder to the extruder with a maximum design throughput of 5 tons/hr, one (1) conveying material from the extruder to the dryer/cooler with a maximum design throughput of 5 tons/hr, with emission controlled by cyclone C11, and emissions exhausted through Stack C11, one (1) conveying material from the dryer/cooler to the extrusion system storage area with a maximum design throughput of 5 tons/hr, and one (1) conveying material from the extrusion system storage area to the packing process with a maximum design throughput of 5 tons/hr.

- (d) one (1) material packing process, with a maximum design throughput of 30 tons/hr, including:
- (i) one (1) meal grinding process, with a maximum design throughput of 7 tons/hr, with emissions controlled by baghouse C20, and emissions exhausted through Stack C20,
 - (ii) one (1) packing process, with a maximum design throughput of 30 tons/hr, with emissions controlled by baghouse C16, and emissions exhausted through Stack C16, and
 - (iii) four (4) enclosed conveyors, one (1) conveying material from the extrusion or pelleting processes to the meal grinding operation with a maximum design throughput of 7 tons/hr, one (1) conveying material from the extrusion or pelleting processes to the packing process conveyor with a maximum design throughput of 23 tons/hr, one (1) conveying material from the meal grinding area to the packing system conveyor with a maximum design throughput of 7 tons/hr, and one conveying material from the extrusion or pelleting processes and meal grinding area conveyors to the packing process with a maximum design throughput of 30 tons/hr.
- (e) one (1) bulk loadout station, with a maximum design throughput of 15 tons/hr, with emissions controlled by baghouse C21, and emissions exhausted through Stack C21.
- (f) one (1) ACM corn flour grinding process, including one (1) grinder with a maximum design throughput of 2 tons/hr, and five (5) enclosed conveyors, each with a maximum design throughput of 2 tons/hr, conveying material to the extrusion process, with the grinder and conveyor emissions exhausted to baghouse C22, and emissions exhausted through Stack C22.
- (g) two (2) 13.4 MMBtu/hr natural gas fired boilers, identified as Boiler 1 and Boiler 2.
- (h) one (1) 23,800 gallon No. 2 fuel oil storage tank, identified as Tank 1.
- (i) three (3) 2.11 MMBtu/hr natural gas fired air make-up units providing heat to the source.
- (j) one (1) cold cleaner with a maximum solvent vapor pressure of 1.0 mm Hg (0.02 psia) at 100° F.

D.1.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the animal feed manufacturing operation shall be limited as follows:

a. Raw Material Receiving Process:

	Limit (lb PM/hr)
Receiving Area	6.69
Grinding	26.74
Storage	2.23
Mixing	6.69
Conveyors	2.23

b. Pelleting Process:

	Limit (lb PM/hr)
System 1 Dryer	7.93
System 1 Cooler	7.93
System 2 Cooler	7.93
Temp. Storage	1.53
Grinder	3.66
Conveyors	1.53

c. Extruding Process:

	Limit (lb PM/hr)
Extrusion Grinders	8.82
Extruders	2.30
Extruder Dryers	3.07
Extruder Coolers	3.07
Extruder Storage	0.96
Conveyors	0.96

d. ACM Grinding Process:

	Limit (lb PM/hr)
Grinder	3.26
Conveyors	3.26

e. Packing Process:

	Limit (lb PM/hr)
Meal Grinder	6.29
Packer	12.58
Conveyors	6.29

f. Bulk Loadout:

	Limit (lb PM/hr)
Truck Loadout	12.58
Conveyors	12.58

D.1.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for this facility and its control device.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.3 Particulate Matter (PM)

The baghouses and cyclones of the animal feed manufacturing operation shall be in operation and control emissions from the applicable units at all times that the animal feed manufacturing operation is in operation.

D.1.4 Visible Emissions Notations

- (a) Daily visible emission notations of baghouses C3, C16, C18, C20, C21, C22, and C23, and cyclones C10, C12, C14-1, and C14-2 stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

D.1.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouses used in conjunction with the animal feed manufacturing operation, at least once per shift when the animal feed manufacturing operation is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouses shall be maintained within the range of 3.0 and 6.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge and Other Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated at least once every six (6) months.

D.1.6 Baghouse Inspections

An inspection shall be performed each calendar quarter of all bags controlling the woodworking operation when venting to the atmosphere. A baghouse inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting indoors. All defective bags shall be replaced.

D.1.7 Broken or Failed Bag Detection

In the event that bag failure has been observed:

- (a) For multi-compartment units, the affected compartments will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if there are no visible emissions or if the event qualifies as an emergency and the Permittee satisfies the emergency provisions of this permit (Section B- Emergency Provisions).

Within eight (8) business hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) business hours of discovery of the failure and shall include a timetable for completion. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

- (b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.1.8 Cyclone Inspections

An inspection shall be performed each calendar quarter of all cyclones controlling the woodworking operation when venting to the atmosphere. A cyclone inspection shall be performed within three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors.

D.1.9 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions). Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.10 Record Keeping Requirements

- (a) To document compliance with Condition D.1.4, the Permittee shall maintain records of daily visible emission notations of the baghouses and cyclones stack exhaust.
- (b) To document compliance with Condition D.1.5, the Permittee shall maintain the following:
 - Weekly records of the following operational parameters during normal operation when venting to the atmosphere:
 - (1) Inlet and outlet differential static pressure; and
 - (2) Cleaning cycle operation.
- (c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.11 Record Keeping Requirements [326 IAC 8-9]

Pursuant to 326 IAC 8-9-6(a) and (b), the owner or operator shall maintain a record and submit to the department, a report of Tank1 containing the following information:

- (a) the vessel identification number,
- (b) the vessel dimensions,
- (c) the vessel capacity, and
- (d) if applicable, a description of any emission control equipment utilized to control emissions at Tank 1, or a schedule for installation of emission control equipment with a certification that the emission control equipment meets the applicable standards.

Said records shall maintain the records required in this condition for the life of the tank and shall make the records available upon request of the Office of Air Quality.

SECTION D.2 FACILITY OPERATION CONDITIONS

two (2) 13.4 MMBtu/hr natural gas fired boilers, identified as Boiler 1 and Boiler 2.

D.2.1 Particulate Matter (PM)

Pursuant to 326 IAC 6-2-3 (Particulate emission limitations for sources of indirect heating: emission limitations for facilities specified in 326 IAC 6-2-1(c)), the particulate matter (PM) emissions from Boiler 2 shall be limited to 0.69 pounds of particulate matter per million British thermal units heat input.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
CERTIFICATION**

Source Name: Purina Mills, Inc.
Source Address: 505 North 4th Street, Richmond, Indiana 47374
Mailing Address: P.O. Box 66812, St. Louis, MO 63166
FESOP No.: 177-13636-00033

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- 9 Annual Compliance Certification Letter
- 9 Test Result (specify) _____
- 9 Report (specify) _____
- 9 Notification (specify) _____
- 9 Affidavit (specify) _____
- 9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Date:

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT**

Source Name: Purina Mills, Inc.
Source Address: 505 North 4th Street, Richmond, Indiana 47374
Mailing Address: P.O. Box 66812, St. Louis, MO 63166
FESOP No.: 177-13636-00033

This form consists of 2 pages

Page 1 of 2

- | | |
|---|---|
| 9 | This is an emergency as defined in 326 IAC 2-7-1(12) |
| C | The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and |
| C | The Permittee must submit notice in writing or by facsimile within two (2) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16 |

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____
Title / Position: _____
Date: _____
Phone: _____

A certification is not required for this report.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION**

**FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Purina Mills, Inc.
Source Address: 505 North 4th Street, Richmond, Indiana 47374
Mailing Address: P.O. Box 66812, St. Louis, MO 63166
FESOP No.: 177-13636-00033

Months: _____ to _____ Year: _____

Page 1 of 2

This report is an affirmation that the source has met all the requirements stated in this permit. This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)

Date of Deviation:

Duration of Deviation:

Number of Deviations:

Probable Cause of Deviation:

Response Steps Taken:

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By: _____

Title/Position: _____

Date: _____

Phone: _____

Attach a signed certification to complete this report.

Indiana Department of Environmental Management Office of Air Management

Addendum to the Technical Support Document for New Construction and Operation

Source Name: Purina Mills, Inc.
Source Location: 505 North 4th Street, Richmond, IN 47374
County: Wayne
Operation Permit No.: 177-13636-00033
SIC Code: 2048
Permit Reviewer: SDF

On June 8, 2001, the Office of Air Quality (OAQ) had a notice published in the Palladium Item, Richmond, Indiana, stating that Purina Mills, Inc. had applied for a permit to operate their animal feed manufacturing operation. The notice also stated that OAQ proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On June 11, 2001, Purina Mills, Inc. submitted the following comments on the proposed operating permit. The summary of the comments and corresponding responses is as follows:

Comment 1:

Purina Mills, Inc. has submitted that the pollution control equipment of their source is integral to their process and that the source PTE should be determined based on emissions after controls. The cyclones and bag filters are used for product recovery. If the emissions are based on emissions after controls, the proposed permit should be a minor source operating permit (MSOP) instead of a federally enforceable state operating permit (FESOP) as proposed.

The US EPA agrees with this position that air control devices in the feed manufacturing industry are inherent to the process.

Response 1:

Pursuant to "Calculating Potential to Emit (PTE) and Other Guidance for Grain Handling Facilities", dated November 14, 1995, page 6, "consistent with EPA's general PTE policy, the effect of control measures (including oil addition) can be taken into account where those control devices and measures are subject to enforceable limits or are inherent to the operation of the facility. (Control measures that are "inherent" are those which are always being operated and maintained for reasons other than community air quality protection. Examples of inherent control measures would include (a) product collection devices for which the value of the product collected greatly exceeds the cost of the collection device, and (b) devices for which the primary purpose is to improve product quality control, to recover product, or to enhance production operating efficiency (for example, product recovery cyclones associated with the operations such as pellet cooling at feed mills)).

Pursuant to EPA guidance "Criteria for Determining Whether Equipment is Air Pollution Control Equipment or Process Equipment", issued November 27, 1995, the potential to emit for a source can be based on emissions after controls provided the primary purpose of the control equipment something other than to control air pollution, the equipment is recovering product and the cost savings from the product recovery outweigh the cost of the equipment, and the equipment in question would be installed if no air quality regulations were in place.

Based on these guidances, it is determined that the control equipment of Purina Mills can be considered inherent and the PTE determined based on emissions after controls as long as the applicable control devices meet the criteria established by EPA.

The primary purpose of the cyclones and bag filters is to recover product, the cost of the product recovered (an average of \$118,800 per year) outweighs the annual cost of the control devices, \$10,533 (the annual control device cost is determined by taking the initial cost which is \$158,000 and dividing it by the life of the equipment, 15 years), and the cyclones and bag filters would still be installed even if there were no air quality regulations in place.

Therefore, it is determined that the PM/PM10 PTE shall be based on emissions after controls because the cyclones and bag filters are integral to the process. The following calculations determine the source PTE.

POTENTIAL TO EMIT (PTE):

The PM/PM10 emissions from the receiving area, receiving area grinder, pelleting system 1 dryer, pelleting system 1 and 2 coolers, pelleting process grinder, extruder process grinder, extruder process dryer and cooler, packing process grinder, packing process packer, ACM grinder, and bulk loadout process are all controlled. All other applicable emissions generated at the source are uncontrolled. The PM/PM10 emissions after controls from these units are determined based on the design outlet grain loadings, air flow rates, 7000 gr/lb, and 8,760 hours/yr. PM10 is determined to be 90% of PM in this case.

$$\text{gr/dscf} * \text{dscf/min} * 60 \text{ min/hr} * 8760 \text{ hr/yr} * 1/7000 \text{ lb/gr} * 1/2000 \text{ ton/lb} = \text{tons/yr}$$

unit/process	gr/dscf	dscfm	PM (tons/yr)	PM10 (tons/yr)
Receiving Area (C15)	0.015	1500	0.86	0.77
Receiving Area Grinder (C3)	0.003	4500	0.51	0.46
Pellet Dryer (C10)	0.004	20000	3.04	2.74
Pellet System 1 Cooler (C14-1)	0.011	20000	8.36	7.52
Pellet System 2 Cooler (C14-2)	0.004	20000	3.04	2.74
Pellet Process Grinder (C18)	0.005	1500	0.29	0.26
Extrusion Grinder (C23)	0.001	4000	0.15	0.14
Extrusion Dryer/Cooler (C12)	0.020	8000	6.08	5.47
Pack Process Grinder (C20)	0.002	2555	0.19	0.17
Pack Process Packer (C16)	0.058	2000	4.41	3.97
ACM Grinder (C22)	0.001	4500	0.17	0.16
Bulk Loadout (C21)	0.005	309	0.06	0.05
Total			27.16	24.45

The total source PTE is the sum of the above estimated controlled emissions and the other unit emissions.

	PM tons/yr	PM10 tons/yr	SO2 tons/yr	NOx tons/yr	VOC tons/yr	CO tons/yr	Comb. HAP tons/yr
Controlled	27.16	24.45	-	-	-	-	-
Rest of Source	8.01	4.47	.10	15.80	0.86	13.30	0.07
Total	35.17	28.92	0.10	15.80	0.86	13.30	0.07

Since the potential to emit of all criteria pollutants are less than 100 tons per year, the potential to emit of all single HAPs is less than ten (10) tons per year, and the potential to emit of the combined HAPs is less than twenty-five (25) tons per year, the source shall be permitted via a MSOP pursuant to 326 IAC 2-6.1-2 instead of the initially proposed federally enforceable state operating permit (FESOP).

The emissions after controls are equal to the emissions before controls.

County Status

Changing the source from a FESOP to a MSOP will not change the county attainment status.

Source Status

Changing the source from a FESOP to a MSOP will not change the source status.

New Source Performance Standards (NSPS)

Changing the source from a FESOP to a MSOP will not change the status of the original New Source Performance Standard (NSPS) determinations.

National Emission Standard for Hazardous Air Pollutants (NESHAP):

Changing the source from a FESOP to a MSOP will not change the status of the original National Emission Standards for Hazardous Air Pollutant (NESHAP) determinations.

Entire Source State Rule Applicability:

Changing the source from a FESOP to a MSOP will change Condition D.1.2. Condition D.1.2 required the source to keep the PM10 emissions to 99 tons per year or less. This limit kept the source from being a Part 70 source. However, since the control equipment is determined to be integral to the process, the PTE is based on emissions after controls which is below 100 tons per year without a limit. Therefore, the limit of Condition D.1.2 is not needed and shall be removed.

All subsequent conditions shall be re-numbered accordingly.

Individual Facility State Rule Applicability:

Changing the source from a FESOP to a MSOP will not change the original individual facility state rule determinations.

Compliance Determination Requirements:

Changing the source from a FESOP to a MSOP will not change the compliance determination requirements originally proposed.

Compliance Monitoring Requirements:

Changing the source from a FESOP to a MSOP will not change the original compliance monitoring determinations.

Record Keeping Requirements:

Changing the source from a FESOP to a MSOP will not change the original record keeping requirement determinations.

Reporting Requirements:

Changing the source from a FESOP to a MSOP will not change the original reporting determinations.

Comment 2:

The hourly production numbers do not reflect the most current production numbers. Please use the most current production rates.

Response 2:

The production rates listed in Condition A.2 and Section D.1 were drafted based on the flow diagrams included with the application. Upon review of the individual process information forms, it is determined that the production rates of the process information forms and the flow diagrams differed due to the fact that the flow diagrams submitted were old.

Therefore, Condition A.2 and the unit description of Condition D.1 shall be revised as follows to reflect the most current production rates. The change in production rates will not affect the PTE calculations because the PM/PM10 PTE is determined based on the respective air flow rates and outlet grain loadings (emissions after controls) and the other emission unit calculations are not dependent on the changed production rates.

- (a) one (1) raw material receiving process, with a maximum design throughput of 20 tons per hour, including:
 - (i) one (1) receiving area with a maximum design throughput of ~~50~~ **75** tons/hr, with emissions controlled by baghouse C15, and exhausted through Stack C15,
 - (ii) one (1) receiving area raw material grinder, with a maximum throughput of ~~45~~ **20** tons/hour, with emissions controlled by baghouse C3, and emissions exhausted through Stack C3,
 - (iii) one (1) raw material storage area, with a maximum design throughput of 20 tons/hr,
 - (iv) one (1) raw material mixing process, with a maximum design throughput of 20 tons/hr, and

- (v) six (6) enclosed raw material conveyors, one (1) conveying material from the receiving area to the grinder and storage conveyors with a maximum design throughput of ~~50~~ **75** tons/hr, with emissions controlled by baghouse C15, and emissions exhausted through Stack C15, one (1) conveying material from the receiving conveyor to the receiving process grinder with a maximum design throughput of ~~45~~ **20** tons/hr, one (1) conveying material from the receiving conveyor to the receiving process storage area with a maximum design throughput of ~~35~~ **55** tons/hr, one (1) conveying material from the grinder to the receiving process storage area with a maximum design throughput of ~~45~~ **20** tons/hr, one (1) conveying material from the storage area to the mixing process with a maximum design throughput of 20 tons/hr, and one (1) conveying material from the mixing area to the pellet or extrusion processes with a maximum design throughput of 20 tons/hr.
- (b) one (1) pelleting process consisting of two (2) pelleting systems, identified as Pellet System 1 and Pellet System 2, each with a maximum design throughput of 10 tons/hr, with:
 - (i) Pellet System 1 including:
 - (A) one (1) pellet dryer, with a maximum design throughput of 10 tons/hr, equipped with a 1.0 MMBtu/hr natural gas fired heating unit, with the dryer emissions controlled by triple cyclone system C10, and emissions exhausted through Stack C10,
 - (B) one (1) pellet cooler, with a maximum design throughput of 10 tons/hr, with emissions controlled by dual cyclone system C14-1, and emissions exhausted through Stack C14-1, and
 - (C) two (2) enclosed material conveyors, one (1) conveying material from the dryer to the cooler with a maximum design throughput of 10 tons/hr, and one (1) conveying material from the cooler to the pelleting process storage area with a maximum design throughput of 10 tons/hr.
 - (ii) Pellet System 2, including:
 - (A) one (1) pellet cooler, with a maximum design throughput of 10 tons/hr, with emissions controlled by triple cyclone system C14-2, and emissions exhausted through Stack C14-2, and
 - (B) one (1) enclosed material conveyor, conveying material from the cooler to the pelleting process storage area with a maximum design throughput of 10 tons/hr.
 - (iii) one (1) pelleting process storage area, including:
 - (A) one (1) pelleting storage area, with a maximum design throughput of 20 tons/hr, and
 - (B) one (1) enclosed material conveyor, with a maximum design throughput of 20 tons/hr, conveying material to the packing process.
 - (iv) one (1) pelleting process grinder, including:
 - (A) one (1) pelleting process grinder, with a maximum design throughput of ~~7.5~~ **10** tons/hr, with emissions controlled by baghouse C18, and emissions exhausted through Stack C18, and
 - (B) two (2) enclosed conveyors, one conveying material from the storage feed conveyor to the grinder with a maximum design throughput of ~~7.5~~ **10** tons/hr, and one (1) conveying material from the grinder conveyor to the storage area or packing process conveyor with a maximum design throughput of ~~7.5~~ **10** tons/hr.

- (c) one (1) extrusion process including two (2) parallel extrusion systems, identified as Extrusion System 1 and Extrusion System 2, each with a maximum design throughput of 5 tons/hr, with:
 - (i) Extrusion System 1 including:
 - (A) one (1) extrusion grinder, with a maximum design throughput of 5 tons/hr, with emissions controlled by baghouse C23, and emissions exhausted through Stack C23,
 - (B) one (1) extruder, with a maximum design throughput of 5 tons/hr,
 - (C) one (1) dryer/cooler process, with a maximum design throughput of 5 tons/hr, with the dryer equipped with a 2.0 MMBtu/hr natural gas fired heater, with emissions from the dryer and cooler each controlled by a cyclone, with the two (2) cyclones identified as C12, and emissions exhausted through Stack C12,
 - (D) one (1) extrusion system storage area, with a maximum design throughput of 5 tons/hr, and
 - (E) four (4) enclosed conveyors, one (1) conveying material from the grinder to the extruder with a maximum design throughput of 5 tons/hr, one (1) conveying material from the extruder to the dryer/cooler with a maximum design throughput of 5 tons/hr, with emission controlled by cyclone C11, and emissions exhausted through Stack C11, one (1) conveying material from the dryer/cooler to the extrusion system storage area with a maximum design throughput of 5 tons/hr, and one (1) conveying material from the extrusion system storage area to the packing process with a maximum design throughput of 5 tons/hr.
 - (ii) Extrusion System 2 including:
 - (A) one (1) extrusion grinder, with a maximum design throughput of 5 tons/hr, with emissions controlled by baghouse C23, and emissions exhausted through Stack C23,
 - (B) one (1) extruder, with a maximum design throughput of 5 tons/hr,
 - (C) one (1) dryer/cooler process, with a maximum design throughput of 5 tons/hr, with the dryer heat supplied by Boiler 2, with emissions from the dryer and cooler each controlled by a cyclone, with the two (2) cyclones identified as C12, and emissions exhausted through Stack C12,
 - (D) one (1) extrusion system storage area, with a maximum design throughput of 5 tons/hr, and
 - (E) four (4) enclosed conveyors, one (1) conveying material from the grinder to the extruder with a maximum design throughput of 5 tons/hr, one (1) conveying material from the extruder to the dryer/cooler with a maximum design throughput of 5 tons/hr, with emission controlled by cyclone C11, and emissions exhausted through Stack C11, one (1) conveying material from the dryer/cooler to the extrusion system storage area with a maximum design throughput of 5 tons/hr, and one (1) conveying material from the extrusion system storage area to the packing process with a maximum design throughput of 5 tons/hr.
- (d) one (1) material packing process, with a maximum design throughput of ~~45~~ **30** tons/hr, including:
 - (i) one (1) meal grinding process, with a maximum design throughput of ~~5~~ **7** tons/hr, with emissions controlled by baghouse C20, and emissions exhausted through Stack C20,
 - (ii) one (1) packing process, with a maximum design throughput of ~~45~~ **30** tons/hr, with emissions controlled by baghouse C16, and emissions exhausted through Stack C16, and

- (iii) four (4) enclosed conveyors, one (1) conveying material from the extrusion or pelleting processes to the meal grinding operation with a maximum design throughput of ~~5~~ **7** tons/hr, one (1) conveying material from the extrusion or pelleting processes to the packing process conveyor with a maximum design throughput of ~~40~~ **23** tons/hr, one (1) conveying material from the meal grinding area to the packing system conveyor with a maximum design throughput of ~~40~~ **7** tons/hr, and one conveying material from the extrusion or pelleting processes and meal grinding area conveyors to the packing process with a maximum design throughput of ~~45~~ **30** tons/hr.
- (e) one (1) bulk loadout station, with a maximum design throughput of 15 tons/hr, with emissions controlled by baghouse C21, and emissions exhausted through Stack C21.
- (f) one (1) ACM corn flour grinding process, including one (1) grinder with a maximum design throughput of 2 tons/hr, and five (5) enclosed conveyors, each with a maximum design throughput of 2 tons/hr, conveying material to the extrusion process, with the grinder and conveyor emissions exhausted to baghouse C22, and emissions exhausted through Stack C22.
- (g) two (2) 13.4 MMBtu/hr natural gas fired boilers, identified as Boiler 1 and Boiler 2.
- (h) one (1) 23,800 gallon No. 2 fuel oil storage tank, identified as Tank 1.
- (i) three (3) 2.11 MMBtu/hr natural gas fired air make-up units providing heat to the source.
- (j) one (1) cold cleaner with a maximum solvent vapor pressure of 1.0 mm Hg (0.02 psia) at 100° F.

Comment 3:

The mixer is a bottleneck which limits the production rate to 20 tons per hour. All product goes through the mixer which has a maximum production rate of 20 tons per hour.

Response 3:

No changes to the permit are necessary because the unit summary of Condition A.1 and the Section D.1 unit description reflect the revised production rates.

No changes to the PTE calculations are necessary because the PTE is determined utilizing methods that are not dependent on the production rate. The PM/PM10 PTE is determined based on the respective outlet grain loadings and air flow rates. The other pollutant PTE is determined for units that have their own specific capacities.

Comment 4:

Please note that the mixer emissions are not vented to the outside.

Response 4:

Part (a)(iv) of Condition A.2 and the unit description of Section D.1 shall be revised as follows to reflect the fact that the emissions are exhausted inside the building.

- (iv) one (1) raw material mixing process, with a maximum design throughput of 20 tons/hr, **with emissions exhausted inside the building to the surge hopper**, and

**Indiana Department of Environmental Management
Office of Air Quality**

**Technical Support Document (TSD) for a
Minor Source Operating Permit (MSOP)**

Source Background and Description

Source Name: Purina Mills, Inc.
Source Location: 505 North 4th Street, Richmond, IN 47374
County: Wayne
SIC Code: 2048
Operation Permit No.: M177-13636-00033
Permit Reviewer: SDF

The Office of Air Quality (OAQ) has reviewed a MSOP application from Purina Mills, Inc. relating to the operation of an animal feed manufacturing operation including:

- (a) one (1) raw material receiving process, with a maximum design throughput of 20 tons per hour, including:
 - (i) one (1) receiving area with a maximum design throughput of 50 tons/hr, with emissions controlled by baghouse C15, and exhausted through Stack C15,
 - (ii) one (1) receiving area raw material grinder, with a maximum throughput of 15 tons/hour, with emissions controlled by baghouse C3, and emissions exhausted through Stack C3,
 - (iii) one (1) raw material storage area, with a maximum design throughput of 20 tons/hr,
 - (iv) one (1) raw material mixing process, with a maximum design throughput of 20 tons/hr, and
 - (v) six (6) enclosed raw material conveyors, one (1) conveying material from the receiving area to the grinder and storage conveyors with a maximum design throughput of 50 tons/hr, with emissions controlled by baghouse C15, and emissions exhausted through Stack C15, one (1) conveying material from the receiving conveyor to the receiving process grinder with a maximum design throughput of 15 tons/hr, one (1) conveying material from the receiving conveyor to the receiving process storage area with a maximum design throughput of 35 tons/hr, one (1) conveying material from the grinder to the receiving process storage area with a maximum design throughput of 15 tons/hr, one (1) conveying material from the storage area to the mixing process with a maximum design throughput of 20 tons/hr, and one (1) conveying material from the mixing area to the pellet or extrusion processes with a maximum design throughput of 20 tons/hr.
- (b) one (1) pelleting process consisting of two (2) pelleting systems, identified as Pellet System 1 and Pellet System 2, each with a maximum design throughput of 10 tons/hr, with:
 - (i) Pellet System 1 including:
 - (A) one (1) pellet dryer, with a maximum design throughput of 10 tons/hr, equipped with a 1.0 MMBtu/hr natural gas fired heating unit, with the dryer emissions controlled by triple cyclone system C10, and emissions exhausted through Stack C10,
 - (B) one (1) pellet cooler, with a maximum design throughput of 10 tons/hr, with emissions controlled by dual cyclone system C14-1, and emissions exhausted through Stack C14-1, and

- (C) two (2) enclosed material conveyors, one (1) conveying material from the dryer to the cooler with a maximum design throughput of 10 tons/hr, and one (1) conveying material from the cooler to the pelleting process storage area with a maximum design throughput of 10 tons/hr.
- (ii) Pellet System 2, including:
 - (A) one (1) pellet cooler, with a maximum design throughput of 10 tons/hr, with emissions controlled by triple cyclone system C14-2, and emissions exhausted through Stack C14-2, and
 - (B) one (1) enclosed material conveyor, conveying material from the cooler to the pelleting process storage area with a maximum design throughput of 10 tons/hr.
- (iii) one (1) pelleting process storage area, including:
 - (A) one (1) pelleting storage area, with a maximum design throughput of 20 tons/hr, and
 - (B) one (1) enclosed material conveyor, with a maximum design throughput of 20 tons/hr, conveying material to the packing process.
- (iv) one (1) pelleting process grinder, including:
 - (A) one (1) pelleting process grinder, with a maximum design throughput of 7.5 tons/hr, with emissions controlled by baghouse C18, and emissions exhausted through Stack C18, and
 - (B) two (2) enclosed conveyors, one conveying material from the storage feed conveyor to the grinder with a maximum design throughput of 7.5 tons/hr, and one (1) conveying material from the grinder conveyor to the storage area or packing process conveyor with a maximum design throughput of 7.5 tons/hr.
- (c) one (1) extrusion process including two (2) parallel extrusion systems, identified as Extrusion System 1 and Extrusion System 2, each with a maximum design throughput of 5 tons/hr, with:
 - (i) Extrusion System 1 including:
 - (A) one (1) extrusion grinder, with a maximum design throughput of 5 tons/hr, with emissions controlled by baghouse C23, and emissions exhausted through Stack C23,
 - (B) one (1) extruder, with a maximum design throughput of 5 tons/hr,
 - (C) one (1) dryer/cooler process, with a maximum design throughput of 5 tons/hr, with the dryer equipped with a 2.0 MMBtu/hr natural gas fired heater, with emissions from the dryer and cooler each controlled by a cyclone, with the two (2) cyclones identified as C12, and emissions exhausted through Stack C12,
 - (D) one (1) extrusion system storage area, with a maximum design throughput of 5 tons/hr, and
 - (E) four (4) enclosed conveyors, one (1) conveying material from the grinder to the extruder with a maximum design throughput of 5 tons/hr, one (1) conveying material from the extruder to the dryer/cooler with a maximum design throughput of 5 tons/hr, with emission controlled by cyclone C11, and emissions exhausted through Stack C11, one (1) conveying material from the dryer/cooler to the extrusion system storage area with a maximum design throughput of 5 tons/hr, and one (1) conveying material from the extrusion system storage area to the packing process with a maximum design throughput of 5 tons/hr.

(ii) Extrusion System 2 including:

- (A) one (1) extrusion grinder, with a maximum design throughput of 5 tons/hr, with emissions controlled by baghouse C23, and emissions exhausted through Stack C23,
- (B) one (1) extruder, with a maximum design throughput of 5 tons/hr,
- (C) one (1) dryer/cooler process, with a maximum design throughput of 5 tons/hr, with the dryer heat supplied by Boiler 2, with emissions from the dryer and cooler each controlled by a cyclone, with the two (2) cyclones identified as C12, and emissions exhausted through Stack C12,
- (D) one (1) extrusion system storage area, with a maximum design throughput of 5 tons/hr, and
- (E) four (4) enclosed conveyors, one (1) conveying material from the grinder to the extruder with a maximum design throughput of 5 tons/hr, one (1) conveying material from the extruder to the dryer/cooler with a maximum design throughput of 5 tons/hr, with emission controlled by cyclone C11, and emissions exhausted through Stack C11, one (1) conveying material from the dryer/cooler to the extrusion system storage area with a maximum design throughput of 5 tons/hr, and one (1) conveying material from the extrusion system storage area to the packing process with a maximum design throughput of 5 tons/hr.

(d) one (1) material packing process, with a maximum design throughput of 15 tons/hr, including:

- (i) one (1) meal grinding process, with a maximum design throughput of 5 tons/hr, with emissions controlled by baghouse C20, and emissions exhausted through Stack C20,
- (ii) one (1) packing process, with a maximum design throughput of 15 tons/hr, with emissions controlled by baghouse C16, and emissions exhausted through Stack C16, and
- (iii) four (4) enclosed conveyors, one (1) conveying material from the extrusion or pelleting processes to the meal grinding operation with a maximum design throughput of 5 tons/hr, one (1) conveying material from the extrusion or pelleting processes to the packing process conveyor with a maximum design throughput of 10 tons/hr, one (1) conveying material from the meal grinding area to the packing system conveyor with a maximum design throughput of 10 tons/hr, and one conveying material from the extrusion or pelleting processes and meal grinding area conveyors to the packing process with a maximum design throughput of 15 tons/hr.

(e) one (1) bulk loadout station, with a maximum design throughput of 15 tons/hr, with emissions controlled by baghouse C21, and emissions exhausted through Stack C21.

(f) one (1) ACM corn flour grinding process, including one (1) grinder with a maximum design throughput of 2 tons/hr, and five (5) enclosed conveyors, each with a maximum design throughput of 2 tons/hr, conveying material to the extrusion process, with the grinder and conveyor emissions exhausted to baghouse C22, and emissions exhausted through Stack C22.

(g) two (2) 13.4 MMBtu/hr natural gas fired boilers, identified as Boiler 1 and Boiler 2.

(h) one (1) 23,800 gallon No. 2 fuel oil storage tank, identified as Tank 1.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) three (3) 2.11 MMBtu/hr natural gas fired air make-up units providing heat to the source.
- (b) one (1) cold cleaner with a maximum solvent vapor pressure of 1.0 mm Hg (0.02 psia) at 100° F.

Existing Approvals

This source has been operating under the following approvals including, but not limited to the following:

- (a) CP (89) 1859 Issued July 23, 1990
- (b) CP 117-1971-00033 Issued April 25, 1991
- (c) CP 177-9621-00033 Issued July 15, 1998

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temp. (°F)
Baghouse (C3)	Rec. Area Grinder	20	16	4500	amb.
Triple Cyclone (C10)	Pellet Dryer	75	36	20000	250
Double Cyclone (C11)	Extruder Conveyor	52	10	1600	125
Quad Cyclone (C12)	Extruder Dryers/Coolers	52	20	8000	125
Double Cyclone (C14-1)	Pellet Cooler 1	75	36	20000	amb.
Double Cyclone (C14-2)	Pellet Cooler 2	75	36	20000	amb.
Baghouse (C15)	Rec. Area/Rec. Conveyor	16	18	1500	amb.
Baghouse (C16)	Packing Process	64	14	2000	amb.
Baghouse (C18)	Pellet Grinder	80	12	1500	amb.
Baghouse (C20)	Packing Meal Grinder	75	12	2555	amb.
Baghouse (C23)	Extrusion Grinder	20	16	4000	amb.
Baghouse (C21)	Bulk Loadout	77	10	309	amb.
Baghouse (C22)	ACM Grinder	22	12	4500	amb.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the MSOP be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete MSOP application for the purposes of this review was received on February 12, 2001.

Emission Calculations

POTENTIAL TO EMIT (PTE):

The following calculations determine the source PTE.

Animal Feed Manufacturing Operation Emissions:

The PM/PM10 emissions from the receiving area, receiving area grinder, pelleting system 1 dryer, pelleting system 1 and 2 coolers, pelleting process grinder, extruder process grinder, extruder process dryer and cooler, packing process grinder, packing process packer, ACM grinder, and bulk loadout process are all controlled.

The PM/PM10 PTE from these units are determined based on emissions after controls, the design outlet grain loadings, air flow rates, 7000 gr/lb, and 8,760 hours/yr. PM10 is determined to be 90% of PM in this case.

The PM/PM10 emissions from the extruders and receiving area mixer are uncontrolled. The following calculations determine the extruder and mixer emissions based on the respective AP-42 emission factors, the respective maximum capacities, emissions before controls, and 8760 hrs/yr.

Mixer: PM: 20 tons/hr * 8760 hr/yr * 0.061 lb PM/ton * 1/2000 ton PM/lb PM = 5.34 tons PM/yr
PM10: 20 tons/hr * 8760 hr/yr * 0.034 lb PM10/ton * 1/2000 ton PM10/lb PM10 = 2.98 tons PM10/yr

Extruders: PM: 10 tons/hr * 8760 hr/yr * 0.061 lb PM/ton * 1/2000 ton PM/lb PM = 2.67 tons PM/yr
PM10: 10 tons/hr * 8760 hr/yr * 0.034 lb PM10/ton * 1/2000 ton PM10/lb PM10 = 1.49 tons PM10/yr

unit/process	gr/dscf	dscfm	PM (tons/yr)	PM10 (tons/yr)
Receiving Area (C15)	0.015	1500	0.86	0.77
Receiving Area Grinder (C3)	0.003	4500	0.51	0.46
Pellet Dryer (C10)	0.004	20000	3.04	2.74
Pellet System 1 Cooler (C14-1)	0.011	20000	8.36	7.52
Pellet System 2 Cooler (C14-2)	0.004	20000	3.04	2.74
Pellet Process Grinder (C18)	0.005	1500	0.29	0.26
Extrusion Grinder (C23)	0.001	4000	0.15	0.14
Extrusion Dryer/Cooler (C12)	0.020	8000	6.08	5.47
Pack Process Grinder (C20)	0.002	2555	0.19	0.17
Pack Process Packer (C16)	0.058	2000	4.41	3.97
ACM Grinder (C22)	0.001	4500	0.17	0.16
Receiving Area Mixer	N/A	N/A	5.34	2.98
Extruders	N/A	N/A	2.67	1.49
Bulk Loadout (C21)	0.005	309	0.06	0.05
Total			35.17	28.92

Bulk Storage:

The bulk materials stored at the source are in enclosed containers with the material conveyed in enclosed conveyors. Thus, the emissions generated due to bulk storage, PM and PM10, are determined to be negligible.

Boiler Emissions:

The following calculations determine the unrestricted PTE from Boilers 1 and 2 based on a natural gas combustion, maximum combined capacity of 26.8 MMBtu/hr, emissions before controls, AP-42 emission factors, and 8,760 hours/yr.

$$\text{MMcf/yr} = \text{MMBtu/hr} * 8760 \text{ hr/yr} * 1/1000 \text{ MMcf/MMBtu}$$

$$\text{ton poll./yr} = \text{MMcf/yr} * \text{Ef (lb poll./MMcf)} * 1/2000 \text{ ton poll./lb. poll.}$$

	PM 1.9 lb/MMcf	PM10 7.6 lb/MMcf	SO2 0.6 lb/MMcf	NOx 100 lb/MMcf	VOC 5.5 lb/MMcf	CO 84 lb/MMcf
ton/yr	0.20	0.90	0.10	11.70	0.60	9.90

Cold Cleaner VOC Emissions:

The following calculations determine the unrestricted PTE from the cold cleaner based on a solvent density of 6.7 lb/gal, 0.05 gal/day, 100% VOC, emissions before controls, and 365 days/yr.

$$6.7 \text{ lb/gal} * 1.00 \text{ lb VOC/lb} * 0.05 \text{ gal/day} * 365 \text{ days/yr} * 1/2000 \text{ tons/lb} = \mathbf{0.06 \text{ tons VOC/yr}}$$

Tank No. 1:

The following is a listing of the emissions generated by storage tank No. 1 based on the methodologies of the Tanks 4.07 program. The results of the calculations are attached at the end of the TSD.

Tank	Tons VOC/yr
No.1	0.001

Paved Roads:

The following calculations determine the fugitive PM and PM10 emissions based on k values of 0.082 lb/VMT and 0.016 lb/VMT for PM and PM10 respectively, a normal road silt loading of 0.00004 lb/ft2, an average vehicle wt of 40 tons, 0.13 miles/trip, 6 trips/hr, emissions before controls, and 8,760 hours of operation.

$$E = k * [sL/2]^{0.65} * [W/3]^{1.5} = \text{lb/vehicle mile traveled}$$

PM PTE:

where: E = Ef lb/vehicle mile traveled (VMT)
 k = base emissions factor (0.082 lb/vehicle mile traveled)
 sL = road mean silt loading (0.00004 lb/ft2)

$$\begin{aligned}
 E &= [0.082 \text{ lb/VMT}] * [0.00004 \text{ lb/ft}^2 / 2]^0.65 * [40 \text{ tons} / 3]^1.5 = 0.004 \text{ lb PM/VMT} \\
 \text{VMT} &= \text{distance one way trip} * \text{number of one way trips/hr} * 8760 \text{ hr/yr} \\
 &= 0.13 \text{ miles/trip} * 6 \text{ trip/hr} * 8760 \text{ hr/yr} \\
 &= 6832.8 \text{ VMT/yr}
 \end{aligned}$$

$$\text{Fugitive PM PTE (tons/yr)} = 6832.8 \text{ VMT/yr} * 0.004 \text{ lb/VMT} * 1/2000 \text{ ton/lb} = \mathbf{0.01 \text{ ton/yr}}$$

PM10 PTE:

where: E = Ef lb/vehicle mile traveled (VMT)
 k = base emissions factor (0.016 lb/vehicle mile traveled)
 sL = road mean silt loading (0.00004 lb/ft²)

$$\begin{aligned}
 E &= [0.016 \text{ lb/VMT}] * [0.00004 \text{ lb/ft}^2 / 2]^0.65 * [40 \text{ tons} / 3]^1.5 = 0.001 \text{ lb PM/VMT} \\
 \text{VMT} &= \text{distance one way trip} * \text{number of one way trips/hr} * 8760 \text{ hr/yr} \\
 &= 0.13 \text{ miles/trip} * 6 \text{ trip/hr} * 8760 \text{ hr/yr} \\
 &= 6832.8 \text{ VMT/yr}
 \end{aligned}$$

$$\text{Fugitive PM/PM10 PTE (tons/yr)} = 6832.8 \text{ VMT/yr} * 0.001 \text{ lb/VMT} * 1/2000 \text{ ton/lb} = \mathbf{0.003 \text{ ton/yr}}$$

Insignificant Activity Emissions:

The insignificant activities that have measurable emissions are the three (3) 2.11 MMBtu/hr space heaters.

The PTE from the space heaters are determined based on a combined maximum capacity of 6.33 MMBtu/hr, AP-42 emission factors (Table 1.4-1), 8,760 hours/yr, and emissions before controls.

$$\text{ton/yr} = \text{MMBtu/hr} * 8760 \text{ hr/yr} * 1/1000 \text{ MMcf/MMBtu} * E_f (\text{lb poll./MMcf}) * 1/2000 \text{ ton poll./lb. poll.}$$

	PM 1.9 lb/MMcf	PM10 7.6 lb/MMcf	SO2 0.6 lb/MMcf	NOx 100 lb/MMcf	VOC 5.5 lb/MMcf	CO 84 lb/MMcf
ton/yr	0.10	0.20	neg.	2.80	0.20	2.30

Source Hazardous Air Pollutants (HAP):

HAP emissions are generated from natural gas combustion in the boilers, dryers, and space heaters, the cold cleaner, the No. 2 fuel oil storage tank, and the animal feed manufacturing operation itself. The table below is a summary of the source HAP emissions. The emission calculations follow the table.

Unit/Process	Single HAP tons/yr	Combined HAP tons/yr
Boiler/Space Heaters/Dryers	neg.	neg.
Cold Cleaner (Naphtha)	0.06	0.06
Storage Tank	neg.	neg.
Animal Feed (Mn & Se)	0.01	0.01
Total		0.07

Boiler, Dryer, and Space Heater Natural Gas Combustion:

The HAP emissions generated by the boilers and space heaters are determined to be negligible.

Cold Cleaner:

The solvent used at the cold cleaning process is Safety Kleen 105 which is 100% volatile and consists of naphtha, a listed hazardous air pollutant. The estimated naphtha unrestricted PTE is equal to the VOC unrestricted PTE, or 0.06 tons/yr.

Storage Tank:

The storage of No. 2 fuel oil will generate fugitive HAP emissions. The unrestricted potential to emit is estimated to be 0.001 ton VOC/yr which is determined to be negligible. The HAP emissions are small fraction of the VOC emissions. Thus, the HAP emissions from the storage tank are also determined to be negligible.

Animal Feed Manufacturing Operation:

The source lists in the application that the listed HAPs manganese and selenium compounds are emitted from the animal feed manufacturing operation. The following calculations determine the unrestricted PTE.

Manganese (Mn) Compounds: $0.002 \text{ lb Mn/hr} * 8760 \text{ hr/yr} * 1/2000 \text{ ton/lb} = 0.01 \text{ ton/yr}$
 Selenium (Se) Compounds: $0.000006 \text{ lb Se/hr} * 8760 \text{ hr/yr} * 1/2000 \text{ ton/lb} = 0.00003 \text{ ton/yr}$

Summary of PTE:

Criteria Pollutants:

Process	PM tons/yr	PM10 tons/yr	SO2 tons/yr	NOx tons/yr	VOC tons/yr	CO tons/yr
Animal Feed Manufacturing	35.17	28.92	-	-	-	-
Bulk Storage	neg.	neg.	-	-	-	-
Boiler	0.20	0.90	0.10	11.70	0.60	9.90
Cold Cleaner	-	-	-	-	0.06	-
Tank 1	-	-	-	-	0.001	-
Paved Roads	0.01	0.003	-	-	-	-
Insignificant Activities	0.10	0.20	neg.	2.80	0.20	2.30
Total	35.48	30.02	0.10	14.50	0.86	12.20

HAPs:

Single HAP(tons/yr)	Combined HAPs (tons/yr)
0.06	0.07

EMISSIONS AFTER CONTROLS:

The emissions after controls equal the emissions before controls.

Potential To Emit for the Source

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	35.48
PM-10	30.02
SO ₂	0.10
VOC	0.86
CO	12.20
NO _x	14.50

HAP	Potential To Emit (tons/year)
Combined	0.07

The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of each criteria pollutants is less than 100 tons per year, the PM and PM10 emissions are greater than 25 tons per year, the worst case single HAP PTE is less than ten (10) tons per year, and the combined HAP PTE is less than twenty-five (25) tons per year. Therefore, the source shall be permitted via a Minor Source Operating Permit pursuant to 326 IAC 2-6.1.

County Attainment Status

The source is located in Wayne County.

Pollutant	Status
PM-10	attainment/unclassifiable
SO ₂	maintenance attainment
NO ₂	attainment/unclassifiable
Ozone	attainment/unclassifiable
CO	attainment/unclassifiable
Lead	attainment/unclassifiable

- Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Wayne County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- Wayne County has been classified as maintenance attainment for SO₂ and attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Source Status

Existing Source PSD and Part 70 Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Potential To Emit (tons/year)
PM	35.48
PM10	30.02
SO ₂	0.10
VOC	0.86
CO	12.20
NO _x	14.50

	Worst Case Single HAP	Combined HAPs
tons/yr	0.06	0.07

- (a) This existing source is not a major PSD stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.
- (b) This existing source is not a major Part 70 stationary source because after application of emission controls, no criteria pollutant emissions exceed the applicable level of 100 tons/yr, no single hazardous air pollutant (HAP) emissions exceed the applicable level of 10 tons/yr, and the combined HAP emissions do not exceed the applicable level of 25 tons/yr.

Federal Rule Applicability

New Source Performance Standards (NSPS):

- (a) **40 CFR 60, Subpart D, Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971:**

40 CFR 60, Subpart D, does not apply to Boilers B1 and B2 because the capacities, 13.4 MMBtu/hr and 13.4 MMBtu/hr, are less than the applicable level of 250 MMBtu/hr.

- (b) **40 CFR 60, Subpart Db, Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units:**

40 CFR 60, Subpart Db does not apply to Boilers B1 and B2 because the boilers were constructed in January of 1970, prior to the applicable date of June 19, 1984, and the capacities, 13.4 MMBtu/hr and 13.4 MMBtu/hr, are less than the applicable level of 100 MMBtu/hr.

- (c) **40 CFR 60, Subpart Dc, Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units:**

40 CFR 60, Subpart Dc does not apply to Boilers B1 and B2 because the boilers were constructed in January 1970, prior to the applicable date of June 9, 1989.

(d) 40 CFR 60, Subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978.

40 CFR 60, Subpart K does not apply to tank 1 because the tank was constructed in 1970, prior to the applicable date of June 11, 1973.

(e) 40 CFR 60, Subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984:

40 CFR 60, Subpart Ka does not apply to tank 1 because the tank was constructed in 1970, prior to the applicable date of May 18, 1978.

(f) 40 CFR 60, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.

40 CFR 60, Subpart Kb does not apply to tank 1 because the tank was constructed in 1970, prior to the applicable date of July 23, 1984.

(g) 40 CFR 60, Subpart DD, Standards of Performance for Grain Elevators:

40 CFR 60, Subpart DD, Standards of Performance for Grain Elevators does not apply to the proposed source because the animal food manufacturing operation was constructed prior to the applicable date of August 3, 1978, and animal food manufacturing operations are exempted from the requirements of this subpart.

Pursuant to 40 CFR 60, Subpart DD, Section 60.300(a), The provisions of this subpart apply to each affected facility at any grain elevator terminal.

Pursuant to 40 CFR 60, Subpart DD, Section 60.301(c), grain terminal elevators are defined as any grain elevator which has a permanent storage capacity of more than 2.5 million US bushels, except those located at animal food manufacturers, cereal manufacturers, breweries, and livestock feedlots.

Since Purina Mills is an animal food manufacturer, the source is not a terminal grain elevator and is therefore not subject to the requirements of Subpart DD.

National Emission Standard for Hazardous Air Pollutants (NESHAP):

40 CFR 63, Subpart T, National Emission Standards for Halogenated Solvent Cleaning:

40 CFR 63, Subpart T, National Emission Standards for Halogenated Solvent Cleaning does not apply because the solvent used in the cold cleaner does not contain any of the applicable cleaning solvents (methylene chloride, perchloroethylene, trichloroethylene, 1,1,1 trichloroethane, carbon tetrachloride, or chloroform).

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Wayne County and the potential to emit of PM10, SO2, NOx, VOC, and CO after controls, each, are less than the applicable level of 100 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Visible Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

Pursuant to 326 IAC 6-4, the Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

The source is not subject to 326 IAC 6-5 because the source is located in Wayne county which is not one of the applicable counties.

State Rule Applicability - Individual Facilities

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The processes of this source will emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 6-2-3 (Particulate Emission Limitations for Source of Indirect Heating):

Boiler 2 is subject to 326 IAC 6-2-3 because the boiler provides heat to the extrusion process dryer and the boiler was constructed in 1970, prior to September 1, 1983, as specified in 326 IAC 6-2-1(c). Pursuant to 326 IAC 6-2-3(b), the particulate matter (PM) emissions from Boiler 2, for a combined capacity of 26.8 MMBtu/hr (Boiler 1 and Boiler 2, both of which were constructed in January of 1970), shall be limited to 0.69 pounds of particulate matter per million British thermal units heat input.

$$\begin{aligned} Pt &= C * a * h / 76.5 * [Q]^{0.75} * [N]^{0.25} \\ &= [50] * [0.67] * [22] / 76.5 * [26.8]^{0.75} * [2]^{0.25} = 0.69 \text{ lb PM/MMBtu} \end{aligned}$$

where: Pt = limit lb PM/MMBtu
Q = source boiler capacity (26.8 MMBtu/hr)
C = max ground concentration (50)
N = number of stacks (2)
a = plume rise factor (0.67 for Q ≤ 1000 MMBtu/hr)
h = 22

Based on the hourly PM emission rate of 0.02 lb/hr, the emissions in lb/MMBtu are estimated to be 0.001 lb/MMBtu which is less than the limit of 0.69 lb/MMBtu.

0.02 lb/hr * 1/13.4 hr/MMBtu = 0.001 lb PM/MMBtu Thus, compliance is determined to be achieved.

326 IAC 6-3-2 (Process Operations)

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the animal food manufacturing operation, are limited as follows.

The source consists of 6 main processes, the raw material receiving and preparation process, the pelleting process, the extruding process, the packing process, the ACM grinding process, and the bulk loadout process. A separate limit shall be established for each of these processes based on the worst case process weight rate and distributed amongst the various units of each process based on a relative respective fraction of the total limit established such that compliance is achieved.

Raw Material Receiving and Preparation Process:

The raw material receiving and preparation process consists of the receiving area, the raw material grinder, the temporary raw material storage area, the mixing area, and the receiving and preparation process material conveyors.

The maximum process weight rate for the receiving and preparation process is 50 tons/hr. Based on this process weight rate, the PM emissions shall be limited utilizing the following equation.

$$E = 55.0 * (50 \text{ ton/hr})^{0.11} - 40 = 44.58 \text{ lb PM/hr}$$

The individual unit emissions from the raw material receiving and preparation process, based on the following fractions are as follows:

Individual Unit lb PM/hr Limit = 44.58 lb PM/hr * Fraction of Emissions

	EAC (tons/yr)	Fraction	EAC (lb/hr)	Limit (lb PM/hr)
Receiving Area	0.86	0.15	0.20	6.69
Grinding	0.46	0.60	0.12	26.74
Storage	neg. (< 1.0 ton/yr)	0.05	neg. (<0.23 lb/hr)	2.23
Mixing	5.34	0.15	1.22	6.69
Conveyors	neg. (<1.0 ton/yr)	0.05	neg.(< 0.23 lb/hr)	2.23
Total				44.58

No individual PM emissions after controls exceed the respective lb/hr limits and the combined individual limits equal the process lb/hr limit. In addition, the equivalent uncontrolled lb PM/hr emissions are less than their respective lb/hr limits. Thus, compliance is determined to be achieved for the units of this process.

Pelleting Process:

The pelleting process consists of the pelleting system 1 dryer, pelleting system 1 cooler, pelleting system 2 cooler, the pelleting process temporary storage area, the pelleting grinder, and the pelleting process conveyors.

The maximum process weight rate for the pelleting process is 20 tons/hr. Based on this process weight rate, the PM emissions shall be limited utilizing the following equation:

$$E = 4.10 * (20 \text{ tons/hr})^{(0.67)} = 30.51 \text{ lb PM/hr}$$

The individual unit emissions from the pelleting process, based on the following fractions are as follows:

$$\text{Individual Unit lb PM/hr Limit} = 30.51 \text{ lb PM/hr} * \text{Fraction}$$

	EAC (tons/yr)	Fraction	EAC (lb/hr)	Limit (lb PM/hr)
System 1 Dryer	3.04	0.26	2.53	7.93
System 1 Cooler	8.36	0.26	1.91	7.93
System 2 Cooler	3.04	0.26	0.69	7.93
Temp. Storage	neg. (< 1.0 ton/yr)	0.05	neg. (<0.23 lb/hr)	1.53
Grinder	0.29	0.12	0.07	3.66
Conveyors	neg. (<1.0 ton/yr)	0.05	neg.(< 0.23 lb/hr)	1.53
Total				30.51

No individual PM emissions after controls exceed the respective lb/hr limits and the combined individual limits equal the process lb/hr limit. Thus, compliance is determined to be achieved for the units of this process.

Extruding Process:

The extruding process consists of the extrusion grinders, the extruders, System 1 and 2 extruder dryers, System 1 and 2 extruder coolers, the extruder temporary storage areas, and the extruder conveyors.

The maximum process weight rate for the extrusion process is 10 tons/hr. Based on this process weight rate, the PM emissions shall be limited utilizing the following equation:

$$E = 4.10 * (10 \text{ tons/hr})^{(0.67)} = 19.18 \text{ lb PM/hr}$$

The individual unit emissions from the extrusion process, based on the following fractions are as follows:

$$\text{Individual Unit lb PM/hr Limit} = 19.18 \text{ lb PM/hr} * \text{Fraction}$$

	EAC (tons/yr)	Fraction	EAC (lb/hr)	Limit (lb PM/hr)
Extrusion Grinders	10.51	0.46	2.40	8.82
Extruders	0.15	0.12	0.03	2.30
Extruder Dryers	3.04	0.16	0.69	3.07
Extruder Coolers	3.04	0.16	0.69	3.07
Extruder Storage	neg. (< 1.0 ton/yr)	.05	neg. (<0.23 lb/hr)	0.96
Conveyors	neg. (<1.0 ton/yr)	.05	neg.(< 0.23 lb/hr)	0.96
Total				19.18

No individual PM emissions after controls exceed the respective lb/hr limits and the combined individual limits equal the process lb/hr limit. In addition, the equivalent uncontrolled lb PM/hr emissions are less than their respective lb/hr limits. Thus, compliance is determined to be achieved for the units of this process.

Packing Process:

The packing process consists of the meal grinder, packing unit, and the packing process conveyors.

The maximum process weight rate for the packing process is 15 tons/hr. Based on this process weight rate, the PM emissions shall be limited utilizing the following equation:

$$E = 4.10 * (15 \text{ tons/hr})^{(0.67)} = 25.16 \text{ lb PM/hr}$$

The individual unit emissions from the packing process, based on the following fractions are as follows:

$$\text{Individual Unit lb PM/hr Limit} = 25.16 \text{ lb PM/hr} * \text{Fraction}$$

	EAC (tons/yr)	Fraction	EAC (lb/hr)	Limit (lb PM/hr)
Meal Grinder	0.19	0.25	2.40	6.29
Packer	4.41	0.50	0.03	12.58
Conveyors	neg. (< 1.0 ton/yr)	0.25	neg. (<0.23 lb/hr)	6.29
Total				25.16

No individual PM emissions after controls exceed the respective lb/hr limits and the combined individual limits equal the process lb/hr limit. Thus, compliance is determined to be achieved for the units of this process.

ACM Grinding Process:

The ACM grinding process consists of the grinder and its associated conveyors. The maximum process weight rate for the ACM grinding process is 2 tons/hr. Based on this process weight rate, the PM emissions shall be limited utilizing the following equation:

$$E = 4.10 * (2 \text{ tons/hr})^{(0.67)} = 6.52 \text{ lb PM/hr}$$

The individual unit emissions from the ACM grinding process are as follows:

$$\text{Individual Unit lb PM/hr Limit} = 6.52 \text{ lb PM/hr} * \text{Fraction}$$

	EAC (tons/yr)	Fraction	EAC (lb/hr)	Limit (lb PM/hr)
Grinder	0.17	0.50	0.04	3.26
Conveyors	neg. (< 1.0 ton/yr)	0.50	neg. (<0.23 lb/hr)	3.26
Total				6.52

No individual PM emissions after controls exceed the respective lb/hr limits and the combined individual limits equal the process lb/hr limit. Thus, compliance is determined to be achieved for the units of this process.

Bulk Loadout:

The bulk loadout process consists of truck loadout station and its associated conveyors.

The maximum process weight rate for the bulk loadout process is 15 tons/hr. Based on this process weight rate, the PM emissions shall be limited utilizing the following equation:

$$E = 4.10 * (15 \text{ tons/hr})^{(0.67)} = 25.16 \text{ lb PM/hr}$$

The individual unit emissions from the bulk loadout process, based on the following fractions are as follows:

$$\text{Individual Unit lb PM/hr Limit} = 25.16 \text{ lb PM/hr} * \text{Fraction}$$

	EAC (tons/yr)	Fraction	EAC (lb/hr)	Limit (lb PM/hr)
Truck Loadout	0.06	0.50	0.01	12.58
Conveyors	neg. (< 1.0 ton/yr)	0.50	neg. (<0.23 lb/hr)	12.58
Total				25.16

No individual PM emissions after controls exceed the respective lb/hr limits and the combined individual limits equal the process lb/hr limit. Thus, compliance is determined to be achieved for the units of this process.

Particulate Matter 10 Microns (326 IAC 2-8-4):

Pursuant to 326 IAC 2-8-4, to avoid undergoing Part 70 review, the source PM₁₀ emissions from the animal feed manufacturing operation must be limited to 99 tons/yr, truncated to a short term lb/hr equivalent.

The short term lb/hr limit must also be divided among the individual units/processes so that compliance via stack testing can be demonstrated.

The annual allowable rate for the animal feed manufacturing operation is 99 tons/yr less the annual fugitive emissions from the boilers (0.90 tons PM10/yr), paved roads (0.003 tons PM10/yr), and the air make-up units (0.20 tons PM10/yr).

$$99 \text{ tons PM10/yr} - 0.90 \text{ tons PM10/yr} - 0.003 \text{ tons PM10/yr} - 0.20 \text{ tons PM10/yr} = 97.90 \text{ tons PM10/yr}$$

The lb/hr limit equivalent to 97.90 tons PM10/yr is 22.35 lb PM10/hr.

$$97.90 \text{ tons/yr} * 2000 \text{ lb/ton} * 1/8760 \text{ yr/hr} = 22.35 \text{ lb PM10/hr}$$

The individual lb/hr limits that allow compliance stack testing (if necessary), are determined as follows based on the individual unit/process after control emissions, the total after controls emissions, the fraction of the total after controls emissions for each unit or process, and the estimated 22.35 lb PM10/hr hourly equivalent limit.

$$\text{Fraction of Total After Controls Emissions} = \text{ind. tons PM10/hr} / \text{total tons PM10/hr (28.92 tons PM10/yr)}$$

$$\text{Ind. lb PM10/hr Limit} = \text{total PM10 limit (22.35 lb PM10/hr)} * \text{Fraction Total After Control Emissions}$$

$$\text{Ind. lb PM10/hr} = \text{Ind. ton PM10/yr} * 1/8760 \text{ yr/hr} * 2000 \text{ lb PM10/ton PM10}$$

unit/process	PM10 EAC (tons/yr)	Fraction Total EAC	2-8-4 PM10 Limit (lb/hr)	PM10 EAC (lb/hr)
Receiving Area (C15)	0.77	0.03	0.67	0.18
Receiving Area Grinder (C3)	0.46	0.02	0.45	0.21
Pellet Dryer (C10)	2.74	0.09	2.01	0.63
Pellet System 1 Cooler (C14-1)	7.52	0.25	5.59	1.72
Pellet System 2 Cooler (C14-2)	2.74	0.09	2.01	0.63
Pellet Process Grinder (C18)	0.26	0.01	0.22	0.06
Extrusion Grinder (C23)	0.14	0.01	0.22	0.03
Extrusion Dryer/Cooler (C12)	5.47	0.18	4.02	1.25
Pack Process Grinder (C20)	0.17	0.01	0.22	0.04
Pack Process Packer (C16)	3.97	0.14	3.13	0.91
ACM Grinder (C22)	0.16	0.01	0.23	0.04
Bulk Loadout (C21)	0.05	0.01	0.22	0.01
Receiving Area Mixer	2.98	0.10	2.24	0.68
Extruders	1.49	0.05	1.12	0.34
Total	28.92	1.00	22.35	6.73

No individual PM10 emissions after controls exceed the respective lb/hr limits and the combined individual limits equal the process lb/hr limit. In addition, the equivalent uncontrolled lb PM10/hr emissions are less than their respective lb/hr limits. Thus, compliance is determined to be achieved for the units of this process.

This limit shall satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

326 IAC 8-3 (Organic Solvent Degreasing Operations)

Sections 2 through 4 of 326 IAC 8-3 do not apply to the cold cleaner which was in existence on January 1, 1980, because the source potential VOC emissions (0.86 tons/yr) are less than the applicable level of 100 tons/yr and the source is not located in the applicable counties (Clark, Elkhart, Floyd, Lake, Marion, Porter, or St. Joseph).

Sections 5 through 7 of 326 IAC 8-3 do not apply to the cold cleaner because the source is not located in Clark, Elkhart, Floyd, Lake, Marion, Porter, or St. Joseph county, and was constructed prior to the applicable date of July 1, 1990.

Section 8 of 326 IAC 8-3 does not apply because the source is not located in Clark, Floyd, Lake, or Porter counties.

326 IAC 8-6 (Organic Solvent Limitations)

326 IAC 8-6 does not apply because the potential VOC emissions (0.86 tons/yr) are less than the applicable level of 100 tons/yr.

326 IAC 8-1-6 (Best Available Control Technology)

Although no other Article 8 rules apply to the cold cleaner, 326 IAC 8-1-6 does not apply because the VOC unrestricted PTE from the cold cleaner (0.86 tons/yr) is less than the applicable level of 25 tons/yr.

Testing Requirements

Pursuant to the stack testing guidance issued on November 18, 1996, the stack testing criteria applicable to Purina Mills is listed below:

- (a) all CWOP/OWOP sources subject to a NSPS/NESHAP standard,
- (b) the emission factor predicts non-compliance with a rule or synthetic limit,
- (c) a single facility or control device which hasn't been tested in the past 5 years and accounts for greater than 40% of the unrestricted PTE,
- (d) the inspector requests it, and
- (e) the compliance plan references parameters that require stack testing to establish them,

There are no NSPS or NESHAPs that apply to the source, no emission factors that predict non-compliance with a limit or rule, no single facility or process that generates unrestricted PTE greater than 40%, no testing that has been requested by compliance, and there are no parameters in the compliance monitoring plan that require stack testing to establish them.

Thus, no stack testing shall be required at this time. However, the Office of Air Quality shall reserve the right to require compliance stack testing should it be deemed necessary.

Compliance Monitoring:

The source consists of six main processes, each of which consists of many individual units and secondary processes. Each of these individual units or secondary processes were designated a 326 IAC 6-3-2 and 2-8-4 PM and PM10 limit, respectively, for the sole purpose to providing a means by which compliance stack testing could be conducted if deemed necessary.

While these limits do allow compliance stack testing, they also inadvertently define the individual units of the source in such a manner that circumvents the compliance monitoring requirements.

The criteria used to determine if compliance monitoring is required, is based on the applicable requirements and emissions generated by the "units" of the source. Establishing individual PM and PM10 limits establish the individual units and secondary processes as the "units" instead of the processes or operation, which divide the emissions generated to levels that are below those that would require compliance monitoring, as specified in the compliance monitoring guidance "Compliance Monitoring Facts", issued May 14, 1996.

However, pursuant to the that same guidance, the Office of Air Quality (OAQ) may require at any time, a site specific compliance monitoring plan if deemed appropriate for the particular situation.

Purina Mills is using emission controls at the animal feed manufacturing operation to reduce the source PM and PM10 emissions to below the levels that require major source operating (Part 70) and major new source (Prevention of Significant Deterioration (PSD)) review.

Since the 326 IAC 6-3-2 and 2-8-4 PM and PM10 limits circumvent the compliance monitoring requirements and the source is utilizing emission controls to stay out of Part 70 and PSD review, it is determined that a compliance monitoring plan shall be required for the animal feed manufacturing operation.

Conclusion

The operation of this animal feed manufacturing operation shall be subject to the conditions of the attached proposed (MSOP No.: 177-13636-00033).